

REMARKS

Claims 1-3 are presented for consideration, with Claims 1 and 3 being independent. Claim 4 has been cancelled without prejudice or waiver of its subject matter. No claims have been added.

Accompanying this Amendment is a Replacement Sheet for Sheet 1, corresponding to Figures 1A and 1B. These figures have been amended in accordance with the requirements in the outstanding Office Action. Favorable consideration and acceptance of those drawings is respectfully sought.

Claim 3 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As the Examiner will appreciate, Applicants have eliminated the language upon which the objection for lack of definiteness was based. Given that amendments, withdrawal of the rejection under §112, second paragraph, is respectfully sought.

Applicants' invention as set forth in independent Claim 1 is directed to a manipulator comprised of a plurality of arm members whose attitudes can be changed and a manipulation target object manipulating hand mounted on the plurality of arm members through a connecting portion. The invention is characterized in that the rotation of the hand or similar motion is caused by changing the attitudes including a parallel state and an intersection state of the plurality of arm members.

Independent Claim 3 is directed to a manipulator comprising a plurality of rod-like arm members and an actuator linearly acting to change attitudes of the plurality of arm

members. As in Claim 1, Claim 3 is characterized in that the attitudes including a parallel state and an intersection state of the plurality of arm members are changed by expand-contract of the actuator, thereby causing rotation of the hand or similar motion.

Independent Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Shahinpoor, et al. (U.S. Patent No. 5,114,300). Claim 3 was rejected under 35 U.S.C. §102(b) as being anticipated by Merlet (U.S. Patent No. 5,053,687) or Clavel (U.S. Patent No. 4,976,582). In view of the above amendments and the reasons which follow, the rejections are respectfully traversed.

As the Examiner would appreciate, each of the independent claims in the above-application has been amended in the similar manner so as to define the attitudes as including a parallel state and an intersection state. Such features are believed clearly shown in the specification at least by the first embodiment, as depicted in Figures 1A and 1B, together with the corresponding description in the specification. Thus, the present invention as now defined in each of Claims 1 and 3 causes rotation or similar motion of the hand by changing the attitudes of the arm members at least between a parallel state and an intersection state of the arm members.

Shahinpoor, et al. is directed to a robotic apparatus with a structure that includes several platforms connected by actuatable longitudinal members and movable joints made of intersecting or interwoven wire members.

Clavel is directed to a device for the movement and positioning of an element space and comprises a base element and a movable element. There are three control arms that are rigidly mounted at their first extremity on three shafts which may be rotated. And the other

extremity of each control arm is made integral with the movable element through two linking bars hingedly mounted on the one hand to a second extremity of the control arm and, on the other hand, to the movable element.

Merlet is directed to an articulated device for use in robotics and includes two plates interconnected by six link members disposed in a closed lattice work structure. Each link member is of a substantially constant length and includes a slider member which is suitable for sliding relative to the bottom plate along a predetermined sliding direction under the drive of the motor.

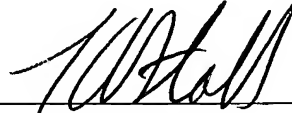
None of the applied references, teach or suggest Applicants' invention as now set forth in independent Claims 1 and 3. More specifically, none of the applied references teach or suggest changing attitudes including the parallel state and the intersection state for causing rotation or similar motion of the hand. It is therefore respectfully submitted that the applied art fails to teach or suggest the invention as recited in the claims and those claims are patentable over that art.

As noted, Claim 2 is a dependent claim, depending directly from Claim 1 and therefore incorporating the subject matter of Claim 1. Claim 2 is patentable over the art of record for reasons noted above with respect to Claim 1, as well as in its own right.

Favorable consideration thereof and allowance of the above-application is respectfully sought.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L. Stahl', is written over a horizontal line.

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